

REMARKS

Entry of the amendment instructions presented herewith and favorable reconsideration and allowance of this application are requested.

Claims 1-5 and 7-14 remain pending herein for consideration.¹ In this regard, all claims, except for claim 14, are presented in the same condition as presented with the applicants' Amendment of July 30, 2003. Claim 14 has been revised slightly so as to reinsert "undecane" therein which was inadvertently deleted with the amendments of July 30, 2003.

The Examiner persists in her rejection of the pending claims based on either JP 56-062,835 or EP 449,685. For convenience, the applicants will refer hereinafter to the JP '835 reference as the Examiner deems it to be equivalent to the cited EP '685 reference. In this regard, the Examiner asserts that the hindered amine species of the present invention and that disclosed in the JP '835 reference are homologues and thus such structural similarities would lead one of ordinary skill in this art to expect similar properties to be exhibited by each compound.

In response, there is attached hereto a Declaration of Mr. Mitsuru FUKUSHIMA (a co-inventor of the present invention) which is being presented under 37 CFR §1.132. The Declaration evidences, *inter alia*, that a hindered amine photostabilizer having a N-CH₃ type piperidyl group in its molecule is superior to a hindered amine photostabilizer having a H-H type piperidyl group in its molecule in terms of improvements to weather resistance imparted to a block copolymer of polypropylene composition.

¹ It is noted that claim 6 was canceled with the applicants' Amendment dated July 30, 2003. Thus, contrary to the indication of claims 1-14 pending herein in the form PTO-326 accompanying the final Official Action of October 22, 2003, claims 1-5 and 7-14 are actually those claims which remain pending. Confirmation of the same is requested.

Masuyuki TAKAHASHI et al
Serial No. 09/702,828
February 23, 2004

The evidence provided by the FUKUSHIMA Declaration presented herewith thereby establishes that there is no predictability or equivalency as between even structurally similar homologues of hindered amine photostabilizers with piperidyl groups in terms of improvements to weather resistance imparted to a block copolymer of polypropylene composition. As such, one of ordinary skill in this art would not have expected such improvements to weather resistance to block copolymers of polypropylene compositions even with actual knowledge of the JP '835 reference.

Every effort has been made to advance prosecution of this application to allowance. Therefore, in view of the remarks and evidence provided during prosecution to date, it is submitted that this application is in condition for prompt allowance and early Official Notice to that effect is solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

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PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Masayuki TAKAHASHI et al

Application No. 09/702,828

Filed: November 1, 2000

Group: 1714

Examiner: Kriellion A. Sanders

For: AUTOMOBILE INTERIOR OR EXTERIOR TRIM MATERIAL

DECLARATION UNDER C.F.R. 1.132

Honorable Commissioner of Patents

And Trademark Office

Washington, D.C. 20231

Sir:

I, Mitsuru FUKUSHIMA, declare and state that:

I was graduated at Tohoku University, Division of Pharmacy, in March 1991.

In April 1991, I was employed as an engineer by ASAHI DENKA KOGYO K. K. and have been engaged in various aspects of research work with respect to polymer additives.

I. With regard to Further Additional Experiment

I am a coinventor of the above identified invention as claimed in the above identified application.

I was intimately involved with the preparation of the above identified U.S. patent application, that all the examples and comparative examples in the above identified U.S. patent application correspond to exactly to experiments made for preparing the application and by knowledge are true; and all statements made in association therewith in the above identified U.S. patent application are made on information and belief and believed to be true.

The Experiment 1, 2 and Comparative Experiment 1, 2 were conducted under my supervision as follows:

Further Additional Experiments

(Experiment 1)

Block copolymer of polypropylene (made by MITSUI CHEMICALS INC. BJHM, MFI of 8g/10minutes) (100 parts by weight), talc (made by NIPPON TALC CO., LTD) (20 parts by weight), Master batch of brown pigment (name of the commodity is unknown) (3 parts by weight), calcium stearate (0.1 parts by weight), glycerol monostearate (made by NIPPON OIL & FATS CO., LTD) (0.5 parts by weight), tetrakis [3 - (3, 5 - di - tert - butyl - 4 - hydroxyphenyl) propionic acid] methane (made by ASAHIDENKA KOGYO K. K. ADEKA STAB AO-60), (0.1 parts by weight), tris (2, 4 - di - tert - butylphenyl) phosphite (made by ASAHIDENKA KOGYO K. K. ADEKA STAB 2112), (0.1 part by weight), a hindered amine (N - CH₃ type) compound represented in Experiment 1 as LA - 52 in Table A, (0.15 part by weight), 3, 5 - di - tert - butyl - 4 - hydroxy - benzoic acid hexadecyl (Compound No.1 in the specification) (0.05 parts by weight) were blended in a ribbon mixer. The resultant mixture was supplied

to a pelletizer and extruded at 250 °C, to thereby prepare pellets. Subsequently, the above pellets were formed into 2-mm thick sheets (Experiment 1) by extrusion at 250 °C.

(Comparative Experiment 1)

The same procedure as in Experiment 1 was performed, except that a hindered amine (N-H type) compound LA-57 represented in Table A was used instead of the hindered amine LA-52 used in Experiment 1. Sheets (2-mm thick) were obtained by same procedure as in Experiment 1.

The sheets obtained by Experiment 1 and Comparative Experiment 1 were tested for weather resistance (time until occurrence of cracking) by use of a sunshine weatherometer under the conditions of at 83 °C without water spraying. The results are shown in Table A.

Table A

	Hindered amine	Time at which cracking occurred (hr)
Experiment 1	LA-52 ¹	2640
Comparative Experiment 1	LA-57 ²	2400

LA-52¹: tetrakis (1, 2, 2, 6, 6-pentamethyl-4-piperidyl) 1,2, 3, 4-butanetetracarboxylate

LA-57²: tetrakis (2, 2, 6, 6-tetramethyl-4-piperidyl-1, 2, 3, 4-butanetetracarboxylate

(Experiment 2)

Block copolymer of polypropylene (made by MITSUI CHEMICALS INC. BJHM, MFI of 8g /10minutes) (100 parts by weight), talc (made by NIPPON TALC CO., LTD) (20 parts by weight), Master batch of blue pigment (name of the commodity is unknown) (3 parts by weight), calcium stearate (0.05 parts by weight), tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionic acid methyl] phosphite (made by ASAHI DENKA KOGYO K. K. ADEKA STAB 2112) (0.05 parts by weight), the same hindered amine (N-CH₃ type) compound LA-52 as used in Experiment 1 in Table A, (0.15 part by weight), 3,5-di-tert-butyl-4-hydroxyl-benzoic acid hexadecyl (Compound No.1 in the specification) (0.05 parts by weight) were blended in a ribbon mixer. The resultant mixture was supplied to a pelletizer and extruded at 250 °C, to thereby prepare pellets. Subsequently, the above pellets were formed into 2-mm thick sheets (Experiment 2) by extrusion at 250 °C.

(Comparative Experiment 2)

The same procedure as in Experiment 2 was performed, except that a hindered amine (N-H type) compound LA-77 represented in Table B was used instead of the hindered amine LA-52 used in Experiment 2. Sheets (2-mm thick) were obtained by same procedure as in Experiment 2.

The sheets obtained by Experiment 2 and Comparative Experiment 2 were tested for weather resistance (time until occurrence of cracking) by use of a sunshine weatherometer under the conditions of at 83 °C without water spraying. The results are shown in Table B.

Table B

	Hindered amine	Time at which cracking occurred (hr)
Experiment 2	LA-52 ¹	2100
Comparative Experiment 2	LA-77 ²	1680

LA-52¹: tetrakis(1,2,2,6,6-pentamethyl-4-piperidyl)1,2,3,4-butanetetracarboxylate

LA-77²: bis (2,2,6,6-tetramethyl-4-piperydy) sebacate

It is apparent from the Table A and B that weather resistance of the sheet including a hindered amine photostabilizer having a 1, 2, 2, 6, 6 - pentamethyl - 4 - piperidyl group represented as hindered amine (N-CH₃ type) compound as above is superior to that of the sheet including a hindered amine (N-H type) compound in the weather resistance properties.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of title 18 of the United State Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Mitsuru Fukushima

Mitsuru FUKUSHIMA

Date: February /8, 2004